FIO Food

Food Insecurity in people living with Obesity

Improving sustainable and healthier food choices in the retail FOOD environment

DIO Food

Diet and Health Inequalities

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EXPERT #1

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Alex is a leading nutrition scientist at the University of Aberdeen's Rowett Institute, specialising in appetite control, obesity, and sustainable diets. She leads major UKRI-funded projects addressing food insecurity and dietary inequalities, and is a registered UK Nutritionist with over 100 peer-reviewed publications.

Speak to Alex if you want to learn more about:

- **lived experience** of food insecurity and obesity
- **Whole systems** and **co-production** approaches
- Stakeholder **engagement** and **impact** delivery

Number 1, Dec 2024 Policy and Practice Note

Narrowing dietary inequalities in the retail environment: Evidence-based recommendations

INSIGHTS FROM THE FIO FOOD PROJECT

In this Policy and Practice Note, we present key outputs and recommendations for policy and retail based on findings from the FIO Food project. These findings relate to the lived experience workstream of people living with obesity and food insecurity when shopping for healthy and environmentally sustainable (hereafter sustainable) food in the supermarket. We contextualise these findings with the views of UK senior supermarket nutritionists.

Overview

- Worldwide dietary patterns are currently unhealthy and environmentally unsustainable, with poor diet quality **increasing the burden of non-communicable diseases**, such as stroke, cancer, heart disease, and ultimately overweight and obesity [1].
- In the UK, the government promotes the **Eatwell Guide** for a balanced, healthy, and sustainable diet. However, the population's **adherence to all its recommendations is below 0.1%**[2].
- In the UK, obesity levels are a major public health issue, with approximately **27% of men and 29% of women** classified as living with **obesity ,** which costs the **NHS circa £6.5 billion** per annum[4]. Indirect costs per year to the UK economy through lost productivity are estimated to be **£27 billion**[5].
- In the UK, **1/5 of the population are experiencing food insecurity,** defined as *'the state of being without reliable access to enough affordable and nutritious food'*[6].
- Food insecurity is associated with an increased risk of obesity [7-10] with almost **36%** of those living in the **most deprived areas experiencing obesity** compared to around 20% in the least deprived areas[3].

Source: World Obesity Federation

THE ROLE OF UK SUPERMARKETS

Supermarkets are a key arena to support public health interventions. They can shape customers' diets due to their ability to control price, product availability, placement, labelling, advertising, and promotions.

In low income households, **76% of food for consumption at home is purchased from the supermarket**.[11] Therefore, the supermarket environment appears to offer the potential to influence health and sustainability for people living with obesity and food insecurity

Our work found that **economic interventions** (e.g., price reductions, financial reward on loyalty cards) were percieved as the most effective strategies in supermarkets for supporting healthier, more sustainable food purchases.[12]

Implementing **affordability** interventions in the supermarket poses several challenges, including profitability concerns and limited consumer demand. Therefore, research with large supermarkets is needed to assess the acceptability and feasibility of using these interventions to support customers to purchase healthier and more sustainable food.

Meeting consumer needs in the cost-of-living crisis:

A mixed methods approach to study the challenges faced when shopping for healthier food in the supermarket.

The recommendations in this policy brief are based on the evidence gathered from using a mixed methods approach across multiple research streams within the FIO Food project[12-15]:

- We have listened to **people with lived experience** of obesity and food insecurity (using online surveys and interviews) about their experiences of shopping for healthy and sustainable food in the supermarket.

Learn more: Stone *et al.* 2023[12], Stone *et al.* 2024[13], Hunter *et al*. 2024[14]

- We have interviewed UK **supermarket senior nutritionists** (representative of 85% of the grocery market share) to understand their perspectives, views, and experiences on the acceptability and feasibility of using price/incentivisation as interventions for health and sustainability.

Learn more: Stone *et al.* 2024[15]

- We shared our findings with **patient and public involvement representatives** to seek their feedback on the relevance and quality of our data interpretations. This approach is thought to lead to better-informed policies and interventions.

Learn more: Lonnie *et al.* 2023[16] , Lonnie *et al.* 2024[17]

WHY USE MIXED METHODS?

This approach is preferred in research with consumer behaviour because it provides a more comprehensive understanding by integrating both quantitative and qualitative data. This combination allows researchers to establish numerical associations that can then be unpicked and contextualised to understand attitudes and motivations in greater detail.

Mixed methods enhance the validity of research through **triangulation**, which cross-verifies data from multiple sources. This approach strengthens research by corroborating findings, reducing biases, and addressing limitations inherent in single-method designs [16-18].

FIO Food Early Career Researcher - Dr Hannah Greatwood – gaining insights on supermarket communications that promote healthy and sustainable eating, in an area of high food insecurity in the North of England.

What have we learnt?

FROM THE CONSUMERS:

Consumers living with obesity and food insecurity reported using certain **food purchasing behaviours and food preparation practices** in response to the cost of living crisis[13]. In our survey (N=583), those living with obesity and limited income reported greater use of:

These quantitative findings were complemented by our parallel qualitative work where we interviewed individuals living with obesity and food insecurity[14] to **delve deeper** and to **identify any further challenges** faced by consumers on a tight budget when shopping for healthier, more sustainable food in the supermarket:

QUANTITATIVE DATA INSIGHTS[13]	QUALITATIVE DATA INSIGHTS[14]
Budgeting *"I cut back on healthy food to afford other essentials (e.g., energy bills)"*	**The Conscious Consumer** • Searching, planning, and preparing • Down to the penny: a working knowledge of food prices • Checking (and often ignoring) nutritional information
Supermarket offers *"I shop around supermarkets for the best deals"*	**The Restricted Consumer** • Healthy options off the table • Shop where you can, not where you want • The emotional toll of restriction
Energy saving appliances *"I use appliances, such as air-fryers more to save money on energy bills"*	**Mitigating the rising cost of food** • Sacrificing quality, quantity, and taste • Maximising food shelf life • Minimising cooking energy costs
Resourceful cooking *"I reduce the amount of food that I waste"*	**Mitigating stigma** • Physical actions: shopping quickly and shopping online • Social comparisons: comparing themselves to others they perceive to be better off

FROM THE RETAILERS[15]:

- Many **complexities faced when promoting healthy food** in the supermarket, including profitability concerns, unpredictability of intervention outcomes, control over own-brand products, perceived intention-behaviour gap, and a belief that they are already implementing affordability interventions.
- **Challenges with evaluating supermarket interventions**, though supermarkets are **willing to collaborate** with other retailers and academics to optimise effectiveness of affordability interventions for health.
- Supermarket's have an **aligned vision on health and sustainability** which prioritises health and sustainability for customers.
- **Difficult to promote sustainable food** without an operationalised, legal definition for sustainable food products.

Recommendations for policymakers & retailers

To support people living with obesity and food insecurity to purchase healthier, more sustainable food, a joined up, complimentary approach between retail and policy is needed. The below recommendations stem from FIO Food findings[12-15].

POLICYMAKERS

Level the playing field between retailers by mandating all supermarkets to price healthier foods in line with inflation

FIO Food has shown that price is the strongest barrier preventing healthy food purchasing, especially in people living with obesity and food insecurity. However, from FIO Food's research with retailers, we recognise the commercial implications of removing price as a barrier. Therefore, policymakers should level the playing field between retailers and compel all supermarkets to price healthier food in line with inflation to ensure equitable access for all.

Reform legislation to prioritise health in food promotions

Our research with people with lived experience of food insecurity and obesity found they often used supermarket offers/ promotions when shopping and they believed unhealthier food were promoted more often than healthier food. Therefore, we support the government's decision to restrict HFSS promotions, however we urge policymakers to extend this guidance to prohibit retailers from utilising loopholes such as placing HFSS products on everyday low pricing.

Incentivise supermarkets to meet targets for selling healthier food

FIO Food's research with retailers has highlighted profitability concerns associated with promoting healthier food. Therefore, retailers should be incentivised to meet targets for selling healthier food as a way to mitigate the potential commercial implications.

Produce a regulatory framework to enable cross-retailer collaboration to support healthier purchasing

Our research with supermarket nutritionists showed there are many trials being conducted to support healthier purchasing, but there is a lack of joined up thinking between retailers to share these insights for public good, despite there being appetite for this. Therefore, policy should develop a regulatory framework to provide the infrastructure to facilitate collaboration, such as has been done with the Food Data Transparency Partnership.

RETAILERS

Implement stable pricing for healthier foods and account for individuals' resources

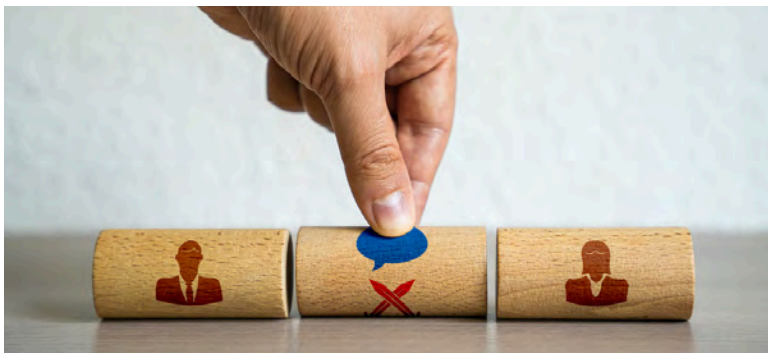
Insights from our research on the lived experience of food insecurity and obesity suggest that when healthier foods are promoted, they lack diversity and they fluctuate in price, making food budgeting and meal planning more challenging. Therefore, retailers should invest in a range of diverse, low-cost healthier food that are price locked. Our research also highlighted a preference for cooking using air fryers and to purchase foods with long shelf lives. Therefore, retailers should consider adding air fryer prep instructions to healthier own-brand products and placing frozen fruit and vegetables on promotion. Accompanying messaging that highlights the equitable quality of frozen versus fresh produce would be necessary to challenge this misconception we also identified in our research.

In-store campaigns should reduce the cognitive demand placed on shoppers

Our participants highlighted the complex and overwhelming nature of supermarkets, which is amplified by living with obesity and food insecurity. They highlighted the difficulty of purchasing a healthy diet when exposed to many, often contradictory, promotions on food (e.g., promotions on HFSS products). Therefore, retailers should restructure the supermarket environment so that it is more complementary in its health messaging to reduce the cognitive burden placed on its customers.

Partner with academia to evaluate interventions supporting healthier food purchasing

Engaging in partnerships with academia is recommended to build a suite of insights that might successfully support vulnerable customers to eat healthier.



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FIO Food project website

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Food Insecurity in People Living with Obesity' (FIO Food) is a 3-year, £1.6m research project funded by the **Transforming the UK Food System - Strategic Priority Fund** (TUKFS-SPF) that aims to provide actionable evidence for policy on retail strategies to address dietary inequalities in people living with obesity and food insecurity, in order to support healthier and more environmentally sustainable food purchases.

FIO FOOD PROJECT TEAM:

Transforming the UK Food Systems for Healthy People and a Healthy Environment SPF Programme is delivered by UKRI, in partnership with the Global Food Security Programme, BBSRC, ESRC, MRC, NERC, Defra, DHSC, OHID, Innovate UK and FSA.

Find out more www.ukfoodsystems.ukri.org

REFERENCES

1. Clark, M. A., Springmann, M., Hill, J., & Tilman, D. (2019). Multiple health and environmental impacts of foods. Proceedings of the National Academy of Sciences, 116(46), 23357-23362. Available here.
2. Scheelbeek, P., Green, R., Papier, K., et al. (2020). Health impacts and environmental footprints of diets that meet the Eatwell Guide recommendations: analyses of multiple UK studies. BMJ open, 10(8), e037554. Available here.
3. Gov.UK (2024). Obesity Profile: short statistical commentary May 2024. Available here.
4. Gov.UK (2023). Department of Health and Social Care Media Centre. Government plans to tackle obesity in England. Available here.
5. The Guardian (2023). Higher obesity levels linked to lower productivity in England, research shows. Available here.
6. UK Parliament (2023). Seventh Report of Session 2022–23. Food Security. Available here.
7. Gundersen, C., & Ziliak, J. P. (2015). Food insecurity and health outcomes. Health affairs, 34(11), 1830-1839. Available here.
8. Morales, M. E., & Berkowitz, S. A. (2016). The Relationship Between Food Insecurity, Dietary Patterns, and Obesity. Current Nutrition Reports, 5(1), 54–60. Available here.
9. Johnstone, A., Lonnie, M., & FIO-Food project team (2023). The cost-of-living crisis is feeding the paradox of obesity and food insecurities in the UK. Obesity (Silver Spring, Md.), 31(6), 1461–1462. Available here.
10. Johnstone, A. M., Lonnie, M., & FIO Food project team (2023). Tackling diet inequalities in the UK food system: is food insecurity driving the obesity epidemic? (The FIO Food project). The Proceedings of the Nutrition Society, 1–9. Available here.
11. CHL UK (2020). Can supermarkets help turn the tide on obesity? A report from one year of the Collaboration for Healthier Lives in the UK (CHL UK). Available here.
12. Stone, R. A., Christiansen, P., Johnstone, A. M., et al. (2023). Understanding barriers to purchasing healthier, more sustainable food for people living with obesity and food insecurity. Available here.
13. Stone, R. A., Brown, A., Douglas, F., et al. (2024). The impact of the cost of living crisis and food insecurity on food purchasing behaviours and food preparation practices in people living with obesity. Appetite. Available here.
14. Hunter, E., Stone, R. A., Brown, A. et al. (2024). "We go hunting…": Understanding experiences of people living with obesity and food insecurity when shopping for food in the supermarket to meet their weight related goals. Appetite. Available here.
15. Stone, R. A., Brown, A., Douglas, F., et al. (2024). Supermarket Nutritionists' Perspectives, Views, and Experiences on Affordability Interventions to Support Healthier and More Environmentally Sustainable Food Purchasing in UK Retail Settings. Available here.
16. Lonnie, M., Crabtree, D. R., & Johnstone, A. (2024). Tackling dietary inequalities in the UK food system: An exploration of stakeholders' experiences to deliver national recommendations for policy and health care practitioners (a framework for action). Available here.
17. Lonnie, M., Hunter, E., Stone, R. A., et al. (2023). Food insecurity in people living with obesity: Improving sustainable and healthier food choices in the retail food environment-the FIO Food project. Nutrition bulletin, 48(3), 390–399. Available here.
18. Regnault, A., Willgoss, T., Barbic, S., et al. (2018). Towards the use of mixed methods inquiry as best practice in health outcomes research. J Patient Rep Outcomes 2, 19. Available here.

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EXPERT #2

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With a PhD in Applied Health Sciences, Emma's research interests lie in health behaviour change, particularly in relation to diet and physical activity and how context shapes these health behaviours, specifically, the impact of socio-economic factors and the wider determinants of health.

Speak to Emma if you want to learn more about:

- **lived experience** of food insecurity and obesity
- challenges associated with **infant feeding** in low-income households
- **qualitative** research methods

May 2025 Research Summary

Food Insecurity Among New Parents: Research Summary & Recommendations

INSIGHTS FROM THE DIO FOOD PROJECT

In this Policy and Practice Note, we present key outputs and recommendations for policy and healthcare professionals based on findings from WP5 of the DIO Food project. These findings relate to the lived experience of UK parents' and carers' living on a low income and the influences that they feel impact or impacted infant feeding, associated with the current cost of living crisis.

Overview

- **In the UK, 1/5 of the population are experiencing food insecurity**, defined as 'the state of being without reliable access to enough affordable and nutritious food'.[1]
- Specific households, such as **families with children are often more vulnerable to experiencing food insecurity**.[2]
- The UK government promotes the **Eatwell Guide** for a balanced, healthy, nutritious diet. However, while **those in the least deprived fifth of the population** would need to **spend 11%** of their disposable income to eat in line with these guidelines, **households with children living in the most deprived fifth** would need to **spend 70%**.[2]
- Between April and September 2024, **63% of food bank parcels** distributed **went to families with children aged 0-16years**.[3]
- **Government financial assistance** schemes; **Best Start** in Scotland and **Healthy Start** in the rest of the UK, may be insufficient to ensure childrens nutritional requirements are met given recent food price inflation and the cost-of-living crisis.[4,5]

STUDY TO EXPLORE THE EXPERIENCE OF FOOD INSECURITY IN FAMILIES WITH YOUNG INFANTS THE UK

While food insecurity has been tracked at the household level and work undertaken to tackle child food poverty and secure the right to food for children in the UK,[6] experiences of food insecurity amongst families with very young infants remains poorly understood in the UK.

The **AIM** of the current study was to **capture parents' and carers' lived experiences and explore influences that they feel impact or impacted infant feeding, associated with the current cost of living crisis.**

We spoke with 11 participants

- **10 MUMS, 1 DAD**
- **4 SINGLE PARENT FAMILIES**
- **6 FAMILIES OF THREE** (MUM, DAD AND 1 CHILD)
- **1 FAMILY OF 4** (MUM, DAD AND 2 CHILDREN)

*All families resided in Scotland

Research undertaken by
Professor Flora Douglas and Dr Emma Hunter
Robert Gordon University

What did we find?

RESULTS:

New parents living on a low income face significant financial challenges in feeding both their baby and themselves due to reduced income in the face of increased outgoings.

As a result, **parents frequently sacrifice their own nutritional needs to ensure their baby is adequately fed**.

> **'we were buying like cheap freezer foods...we didn't want to admit to people, to start with, that we were finding it a bit tough. So, we were maybe having one meal a day... just kind of saving ourselves to dinnertime**
>
> Participant 10 (female, bottle feeding, family of 3)

> **'[when] they were saying something about, you know, the formula, they would start with, 'I... I'm not allowed to say it but…', I think they are troubled...I think it's just went a little bit too far'**
>
> Participant 07 (female, breast feeding, family of 3)

- There was **a lack of discussions** with healthcare professionals **around new parents financial circumstances.**

Parents described **strained conversations** with healthcare professionals **around infant formula**.

- Financial shortfalls are covered by **family and third sector organisations,** who provide support to **help new parents feed themselves and their baby**.
- **Parents reported stigma** associated with **accessing and receiving** certain types of **support.**

> **'it's like, like, I used to have a really good job...taking your newborn baby and son over to queue outside a food van, it's embarrassing but, I had to do it,'**
>
> Participant 09 (female, bottle feeding, single parent with 2 children)

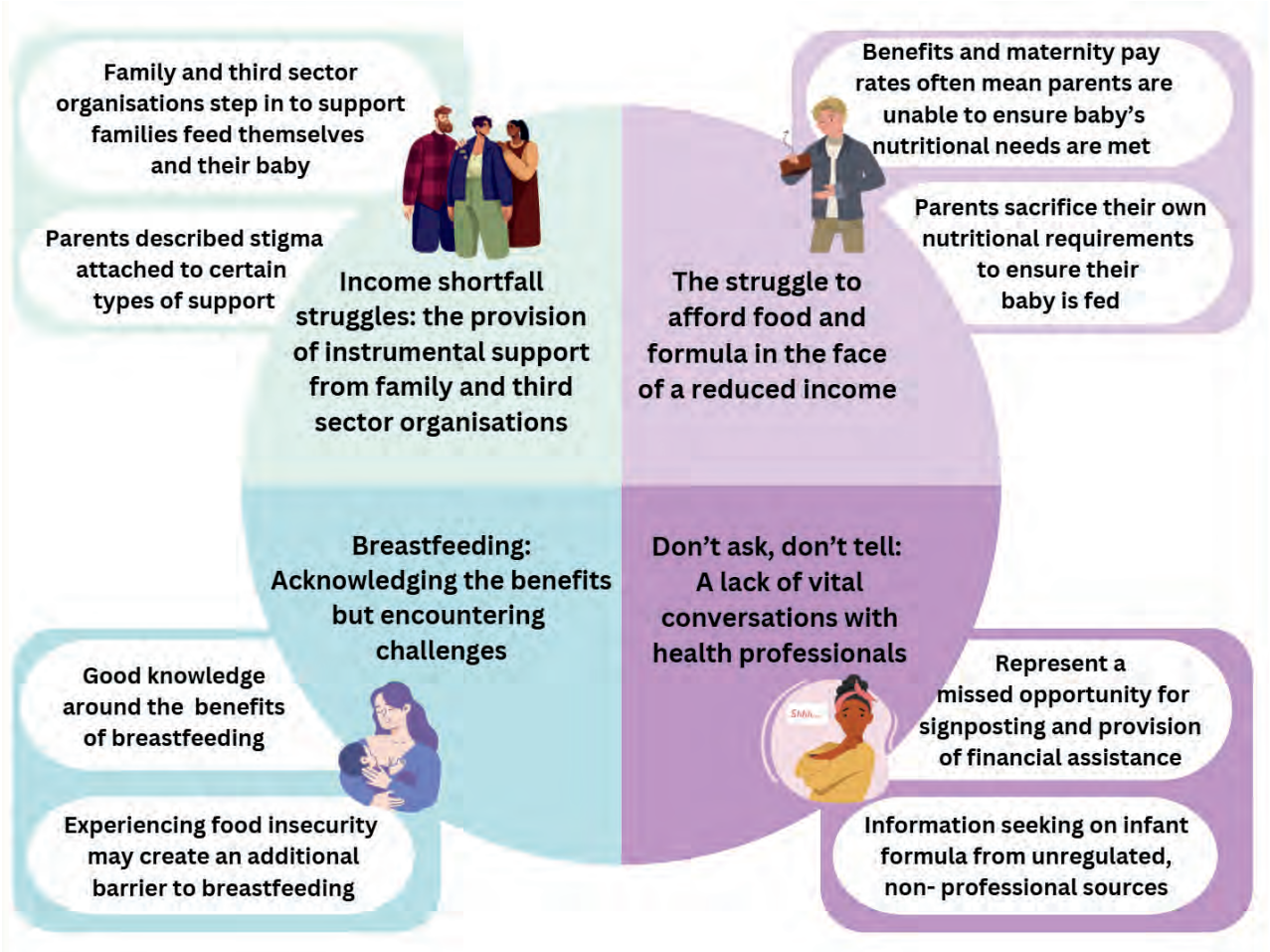

Diagram summarising the main themes and sub themes identified from interviews with parents experiencing food insecurity on their experiences of feeding their baby during the cost of living crisis

CONCLUSIONS

- Benefits and statutory maternity pay often leave new parents struggling to ensure the nutritional needs of their infants are met.
- Difficulties accessing food and formula and the **sacrifices** made by parents experiencing food insecurity around their **own nutritional intake** could result in **negative health** outcomes for low income families.
- A **lack of discussions** with health professionals (midwives, health visitors) around new parents' financial circumstances represents a missed opportunity to:
  - ensure parents are accessing all benefits to which they are entitled;
  - signpost parents to support organisations.
- **Strained conversations** with health professionals around infant formula leads parents to:
  - seek information on infant formula from **unregulated sources .**
- **Cash-first** approaches to supporting new parents access food and formula may help mitigate experiences of **stigma** associated with the provision of certain types of support (i.e., accessing a food bank).

RECOMMENDATIONS

GOVERNMENT LEVEL

- ✓ **Uprate Best Start/ Healthy Start** payments to ensure parents can fully meet their c**hildren's nutritional requirements**
- ✓ **Increase** rates of **Statutory Maternity** pay to meet National Living Wage
- ✓ Mandate routine, sensitive **conversations** around financial circumstances as part of health visiting contacts
- ✓ Prioritise a **Cash-First approach** to support parents access food and formula

HEALTHCARE PROFESSIONALS

- ✓ Chief Midwifery Officer: lead on consultation with health visitors and midwives to better **understand barriers to conversations** with new parents around financial circumstances and formula feeding
- ✓ NHS Education for Scotland (NES): create a **national learning package** on TURAS and provide resources to Health Visitors and Midwives to facilitate discussions

This research summary was written by Dr Emma Hunter,[a,b] Dr Marta Lonnie,[b] Professor Flora Douglas,[a] Maria Velo Higueras[a] and Professor Alexandra Johnstone,[b] on behalf of the DIO Food Project Team.

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DIO Food project website

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This research was funded through the Transforming the UK Food System for Healthy People and a Healthy Environment SPF Programme, delivered by UKRI, in partnership with the Global Food Security Programme, BBSRC, ESRC, MRC, NERC, Defra, DHSC, OHID, Innovate UK and FSA (BB/W018020/1 - FIO Food award; Additional Funding Stream for the DIO Food project).

Find out more www.ukfoodsystems.ukri.org

REFERENCES

1 UK Parliament (2023). Seventh Report of Session 2022–23. Food Security. Retrieved from: https://publications.parliament.uk/pa/cm5803/cmselect/cmenvfru/622/report.html

2 The Food Foundation (2025). The Broken Plate 2025. The State of the Nation's Food System. Retrieved from https://foodfoundation.org.uk/publication/broken-plate-2025

3 Trussell (2024). More than 1.42 million emergency food parcels distributed in past six months. Retrieved from: https://www.trussell.org.uk/news-and-research/news/more-than-1.42-million-emergency-food-parcels-distributed-in-past-six-months

4 Powell, T., Harker, R., Francis-Devine, B., Kennedy, S. & Lewis, A. (2023). Healthy Start scheme and increases in the cost of living. Research Briefing. House of Commons Library, UK Parliament. Retrieved from: https://commonslibrary.parliament.uk/research-briefings/cdp-2023-0111/

5 Feed (2020). The provision of infant formula at food banks in the UK. Ensuring a fair for all approach to protect the health and wellbeing of formula fed infants and their families. Retrieved from: https://static1.squarespace.com/static/5efa4a95af311446a53c8cab/t/5fd0990c5347e801a823f769/1607506207266/Feed+report+on+formula+at+foodbanks+-+December+9th+2020.pdf

6 The Food Foundation (2025). Children's Food Policy Library. Retrieved from: https://foodfoundation.org.uk/initiatives/childrens-food-policy-library#tabs/Welfare-Food/-Healthy-Start-Schemes

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EXPERT #3

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Michelle is a Professor of Data Science for Food at the University of Leeds, working with digital footprint data including supermarket sales data, to understand the impact of food on population and planetary health. She leads the Food Retail Environment Research for Sustainable, Healthier diets (FRESH) research programme and is a Director at the Smart Data Research UK Healthy and Sustainable Places Data Service.

Speak to Michelle if you want to learn more about:

- Collaborating with major **UK retailers**
- High Fat, Sugar & Salt **(HFSS)** legislation
- Working with supermarket **sales data**

March 2025 Policy Brief

Restricting unhealthy foods in retail environments: Evidence-based recommendations for policy impact

INSIGHTS FROM THE DIO FOOD PROJECT

WHAT IS THE PROBLEM?

- Obesity levels are a major public health issue in the UK. Approximately **27% of men**, **29% of women** and **22% of children** aged 10-11 are classified as living with obesity.[1,2]
- In retail food environments 41-70% of promoted products are less healthy foods and drinks.[3,4]
- In an effort combat this, the government introduced legislation in England to **restrict the placement of foods and non-alcoholic drinks** high in fat, sugar, or salt (HFSS) in prime locations in-store and online, in October 2022.[5]

WHAT DID WE DO?

- Researchers at the University of Leeds conducted online **surveys with 1968 adults shoppers** to investigate awareness of the legislation and impacts on purchasing behaviours.[6,7]
- Surveys and interviews were conducted with major UK **retailers** (Asda, Morrisons, Sainsbury's and Tesco's), the **British Retail Consortium** and **enforcement** to gain insights into **retailer strategic responses** to the legislation.[7,8]
- Using our findings, we co-developed **policy recommendations** with academics and IGD (Institute for Grocery Distribution).

WHAT DID WE FIND?

- **Key results** (page 2) and **seven evidence-based recommendations** (page 3) provide valuable insights into how the HFSS legislation was implemented and impact on customers.

WHAT ARE THE RECOMMENDED NEXT STEPS?

- ☑ Consistency in **quality, quantity, type** and **source** of **evidence** used to inform legislation.
- ☑ To establish effective mechanisms to facilitate **co-production** between policymakers and context-specific experts.
- ☑ To develop an open, regularly updated **food composition data platform** for classification of food and drinks.
- ☑ **Provide enforcers** with **sufficient** funding, training, data access, and a free HFSS mobile tool to assess compliance.
- ☑ **Cohesion is needed** across government departments that deal with food-related issues through use of **a Food Mission Lead**.
- ☑ Establish a **dedicated department** and **public forum** to support implementation and enforcement.
- ☑ Ensure **healthier foods** are more **affordable and accessible.**

Suggested citation: Kininmonth, A. R., Stone, R. A., Jenneson, V., Naisbitt, R., Van, D.T.T., Johnstone, A., & Fildes, A., Morris, M. A. (2025). Restricting unhealthy foods in retail environments: Evidence-based recommendations for policy impact. Available here.

What did we find?

Responses to the HFSS legislation

BUSINESS-LEVEL

- Stakeholders supported the **fundamental aim** of the legislation but raised implementation concerns.
- Challenges included:
  - **Lack of** comprehensive **guidance**
  - **Tight deadlines**
  - **Limited** two-way **communication** with government
  - **Absence** of **centrally** available **nutrition data**
- Retailers had **dedicated HFSS teams**, conducted **in-store trials** and worked with **BRC** and **enforcement** to understand the legislation.
- Retailers made **physical store changes** and **reformulated products** to achieve compliance
- **Store changes** include:
  - Moving **out-of-scope HFSS products** to prime locations
  - Merchandising **alcohol** and **non-food items** in prime locations
  - Replacing aisle ends with **digital advertisements**
  - Putting **non-HFSS** products on aisle ends
  - Moving in-scope HFSS products to unrestricted areas (e.g. in-aisle displays).
- Retailers stated there was a **lack of enforcement**, with no retailers receiving notifications, warnings or fines.
- Retailers changed their **reformulation**, **product development** and **innovation plans** due to the HFSS legislation.

REFERENCES

1).Gov.UK (2024). Obesity Profile: short statistical commentary May 2024. Available here
2)NHS Digital (2024). National Child Measurement Programme, England 2023/24 School Year. Available here
3)The Food Foundation. (2024). Kids Food Guarantee: Multibuys and price promotions update. Available here.
4)The Obesity Health Alliance. (2018). Out of Place - The Extent of Unhealthy Foods in Prime Locations in Supermarkets. Available here.
5).Department of Health & Social Care. (2023). Restricting promotions of products high in fat, sugar or salt by location and by volume price: implementation guidance. Available here.
6).Kininmonth, A.R., Jenneson, V., Pontin, F. et al. (2025). Customers awareness and perceptions of the High in Fat, Sugar, and Salt (HFSS) product placement legislation and its impacts of the legislation on food shopping behaviours. (pre-published work)
7).Fildes, A., Kininmonth, A. R, Ennis, E., et al. (2024). Protocol: A mixed methods evaluation of Retailer and Customer responses to the implementation of the High in Fat, Sugar and Salt (HFSS) product placement restrictions in England. OSF. Available here.
8).Kininmonth, A.R., Stone, R.A., Jenneson, V. et al. (2025). "It was a force for good but…": A mixed-methods evaluations of the high in fat, sugar and salt (HFSS) legislation in England. (pre-published work)

CONSUMER-LEVEL

Our online survey among 1968 shoppers revealed that the following percentage of consumers:

71%

Felt the legislation was **a good first step**.

However…

73%

Felt the legislation would have **no impact** on their shopping habits.

The legislation was intended to be unseen and…

59%

Were not aware of the legislation and did not notice changes in store or online.

75%

Felt **individuals were responsible** for making healthier food choices.

54%

Stated they would continue to **purchase HFSS** products if they were not on price promotion.

90%

Felt **affordability** of **healthier food** was as or more important than legislation on unhealthy foods.

84%

Wanted to see **fruits and vegetables** in prime locations or on price promotions.

Shoppers with **children** and those experiencing **food insecurity** reported being **more susceptible** to **product placement** and **price promotion** strategies targeted by the current and planned HFSS legislation.

Recommendations for policymakers

Using our findings, we co-produced seven evidence-based recommendations for policymakers during workshops with academics and IGD (Institute for Grocery Distribution).

Evidence-based public health legislation

Consistency in quality, quantity, type and source of evidence is required to inform legislation. Non-academic sources such as **in-store trials**, which have been independently evaluated, should be considered and a **dedicated forum** be established to facilitate sharing retail findings in a non-competitive setting.

Allocate **sufficient funding** to allow **evidence generation** and **robust and timely evaluation** of legislation. An iterative process could **refine** and **enhance** legislations.

Co-production with organisations across the food sector, enforcement & academics

There is **need for context-specific experts to contribute** to implementation guidance for food policy in complex retail environments. Policymakers should establish **effective communication** strategies to engage key stakeholders early and throughout the process. Working with trade associations to gain **unified input** from the food sector, limits potential conflicts and competitive advantage.

Open, regularly updated food composition database for HFSS classification of food & drinks

There is a critical need for a centrally managed **open, regularly updated** food composition database to support consistent implementation, compliance, enforcement, and timely evaluation of legislation.

Suppliers and manufacturers should be **mandated** to provide ingredient data to enable Nutrient Profile Model score calculation and to derive other nutrition metrics.

Legislation must be enforceable which requires sufficient support

Adequate **funding**, **training**, **data access,** an **interactive HFSS mobile-tool** are required to facilitate enforcement in-store, with a **dedicated forum** to address queries from enforcement officers.

Align government departments in their approach to food.

There is a need for a **joined-up approach** between the numerous government departments, that deal with food-related issues. Government should pursue the use of a **Food Mission Lead**.

Dedicated support and guidance to facilitate effective implementation of legislation.

A **formal support mechanism** pre-implementation, such as a **dedicated department** for queries and **a public forum** to publish responses to queries is required. Support could include a decision document with evidence and rationale, explainer videos for differing store layouts, and FAQs.

Ensure healthier foods are more affordable and accessible.

Future legislation should not only restrict unhealthy foods but increase the **affordability** and **accessibility** of **healthier foods** through **incentivisation** and **promotion** in **prominent locations**.

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